

Docket: B191000CIPCON
U.S. App. No.: 10/667,921

Amendments to the Claims

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-38. Cancelled.

39. (Currently Amended) The tissue remover according to claim 3865, wherein the electromagnetic energy source comprises an erbium, chromium, yttrium, scandium, gallium garnet (Er, Cr:YSGG) solid state laser.

40. (Currently Amended) The tissue remover according to claim 3865, wherein the electromagnetic energy source comprises a CO₂ laser.

41. (Currently Amended) The tissue remover according to claim 3865, wherein the aspiration cannula is formed of a medical grade plastic.

42. (Currently Amended) The tissue remover according to claim 3865, wherein the aspiration cannula is formed of a stainless steel.

43. (Currently Amended) The tissue remover according to claim 3865, wherein the electromagnetic energy transmitter is a fiber optic delivery system.

44. (Currently Amended) The tissue remover according to claim 3854, wherein the fluid comprises water.

45. (Currently Amended) The tissue remover according to claim 3865, wherein the fluid comprises an anesthetic.

46. (Currently Amended) The tissue remover according to claim 3865, wherein the fluid comprises a saline solution.

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47. (Currently Amended) The tissue remover according to claim 3854, wherein the fluid comprises sterile fluid.

48. (Currently Amended) The tissue remover according to claim 3865, wherein the fluid comprises epinephrine.

49-51. Cancelled.

52. (Currently Amended) The tissue remover according to claim 3865, wherein the energy source comprises an ER:YAG laser.

53. (Currently Amended) The tissue remover according to claim 3865, wherein the fluid comprises epinephrine and an anesthetic.

54. (Currently Amended) A tissue remover, comprising:

a tissue remover cannula having a cannula proximal end and a cannula distal end, the tissue remover cannula being provided with a cannula lumen in communication with the cannula distal end, whereby the cannula distal end is not obstructed ~~and is adapted to receive soft or hard tissue therethrough and into the cannula lumen;~~

an imager, the imager being adapted to provide an image to a user of an area in proximity to the cannula distal end;

a fluid and energy guide disposed within the tissue remover cannula, the fluid and energy guide transporting air and fluid to a distal end of the fluid and energy guide and being adapted to generate fluid particles in an interaction zone located in close proximity to the distal end of the fluid and energy guide and beyond the cannula distal end, the fluid and energy guide further providing electromagnetic energy from an energy source to an electromagnetic energy transmitter within the fluid and energy guide, the electromagnetic energy having a wavelength which is substantially absorbed by a portion of fluid particles in the interaction zone, the absorption of the electromagnetic energy by the portion of fluid particles causing the portion of fluid particles to expand and impart disruptive cutting forces onto soft or hard tissue ~~within the cannula lumen~~ in close proximity with the cannula distal end; and

a source of aspiration connected to a proximal end of the tissue remover cannula,

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the source of aspiration being configured to aspirate air and fluid from the fluid and energy guide, and tissue debris from within the tissue remover cannula, through the cannula distal end and the tissue remover cannula.

55. (Previously Presented) The tissue remover as set forth in Claim 54, wherein the energy source comprises an Er, Cr:YSGG laser.

56. (Previously Presented) The tissue remover as set forth in Claim 54, wherein the energy source comprises an infrared laser and the imager comprises an infrared imager.

57. (Previously Presented) The tissue remover as set forth in Claim 54, wherein the imager is disposed within the tissue remover.

58. (Previously Presented) The tissue remover as set forth in Claim 54, wherein the imager is disposed within the cannula lumen.

59. (Previously Presented) The tissue remover as set forth in Claim 56, wherein the imager maps temperature differences of tissue in close proximity with the cannula distal end by detecting electromagnetic radiation from tissue that is at different temperatures from its surroundings.

60-64. Cancelled.

65. (Currently Amended) The tissue remover according to claim 47, wherein the sterile fluid A tissue remover comprising:

an aspiration cannula having a cannula proximal end and an unobstructed, open cannula distal end, the aspiration cannula being provided with a cannula lumen in communication with the open cannula distal end;

a fluid and energy guide disposed within the aspiration cannula and longitudinally extending within the cannula lumen, the fluid and energy guide transporting air and fluid, which comprises a sterile fluid that comprises water, to a distal end of the fluid and energy guide and being adapted to generate atomized fluid

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particles in an interaction zone located in close proximity to the distal end of the fluid and energy guide beyond the open cannula distal end, the fluid and energy guide further providing electromagnetic energy from an energy source to an electromagnetic energy transmitter operatively mounted within the fluid and energy guide, the electromagnetic energy having a wavelength which is substantially absorbed by a portion of atomized fluid particles in the interaction zone, the absorption of the electromagnetic energy by the portion of atomized fluid particles causing the portion of atomized fluid particles to expand and impart disruptive cutting forces onto soft or hard tissue in close proximity with the open cannula distal end; and
a source of aspiration connected to a proximal end of the aspiration cannula, the source of aspiration being configured to aspirate air and fluid, and soft or hard tissue, through the open cannula distal end and the aspiration cannula.

66. (Currently Amended) ~~The tissue remover according to claim 47, wherein the sterile fluid~~ A tissue remover comprising:

an aspiration cannula having a cannula proximal end and an unobstructed, open cannula distal end, the aspiration cannula being provided with a cannula lumen in communication with the open cannula distal end;
a fluid and energy guide disposed within the aspiration cannula and longitudinally extending within the cannula lumen, the fluid and energy guide transporting air and fluid, which comprises a sterile fluid that comprises an anesthetic, to a distal end of the fluid and energy guide and being adapted to generate atomized fluid particles in an interaction zone located in close proximity to the distal end of the fluid and energy guide beyond the open cannula distal end, the fluid and energy guide further providing electromagnetic energy from an energy source to an electromagnetic energy transmitter operatively mounted within the fluid and energy guide, the electromagnetic energy having a wavelength which is substantially absorbed by a portion of atomized fluid particles in the interaction zone, the absorption of the electromagnetic energy by the portion of atomized fluid particles causing the portion of atomized fluid particles to expand and impart disruptive cutting forces onto soft or hard tissue in close proximity with the open cannula distal end; and
a source of aspiration connected to a proximal end of the aspiration cannula, the source of aspiration being configured to aspirate air and fluid, and soft or hard tissue,

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through the open cannula distal end and the aspiration cannula.

67. (Currently Amended) The tissue remover according to claim 47~~66~~, wherein the sterile fluid comprises a saline solution.

68. (Currently Amended) The tissue remover according to claim 47~~66~~, wherein the sterile fluid comprises epinephrine.

69. (Currently Amended) The tissue remover according to claim 47, wherein the sterile fluid further comprises an anesthetic.

70-75. Cancelled